WHAT IS CLAIMED IS:

1. An image data processing method for determining a voltage applied to a liquid crystal in a liquid crystal display device based on image data representing a plurality of frame images successively displayed on the liquid crystal display device, comprising:

generating primary reconstructed preceding frame image data representing an image of a preceding frame by compressing current frame image data representing an image of a current frame, delaying the compressed image data by one frame interval, and decompressing the delayed image data;

calculating an amount of change between the image of the current frame and the image of the preceding frame;

generating secondary reconstructed preceding frame image data representing the image of the preceding frame, based on the current frame image data and said amount of change;

generating reconstructed preceding frame image data representing the image of the preceding frame, based on an absolute value of said amount of change, the primary reconstructed preceding frame image data, and the secondary reconstructed preceding frame image data; and

generating compensated image data having compensated values representing the image of the current frame, based on the current frame image data and the reconstructed preceding frame image data.

2. The image data processing method of claim 1, wherein the current frame image data are compressed by encoding and decompressed by decoding, further comprising decoding the encoded current frame image data to generate non-delayed decoded current frame image data, the amount of change being

calculated by comparing the primary reconstructed preceding frame image data with the non-delayed decoded current frame image data.

3. The image data processing method of claim 1, wherein the current frame image data are compressed by quantizing and decompressed by restoring bits, the amount of change being calculated by comparing the delayed image data with the quantized current frame image data.

4. The image data processing method according to claim 1, wherein generating the reconstructed preceding frame image data comprises:

selecting the primary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is larger than a predetermined threshold; and

selecting the secondary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is smaller than the predetermined threshold.

5. The image data processing method according to claim 1, wherein generating the reconstructed preceding frame image data comprises:

selecting the primary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is larger than a first predetermined threshold;

selecting the secondary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is smaller than a second predetermined threshold which is smaller than the first threshold; and

combining the primary reconstructed preceding frame image data and the secondary reconstructed preceding frame image data in proportion to distances of said amount of change from the first threshold and the second threshold, when said amount of change is between the first threshold and the second threshold.

6. The image data processing method according to claim 1, wherein generating the compensated image data comprises inputting the current frame image data and the reconstructed preceding frame image data to a lookup table.

7. The image data processing method according to claim 6, wherein:

at least one of the current frame image data and the reconstructed preceding frame image data undergoes bit reduction by quantization before being input to the lookup table;

interpolation coefficients are determined when the bit reduction takes place, based on a positional relation of the image data before the bit reduction to thresholds used for the bit reduction; and

interpolation is carried out on the output of the lookup table by using the interpolation coefficients.

8. An image data processing circuit for determining a voltage applied to a liquid crystal in a liquid crystal display device based on image data representing a plurality of frame images successively displayed on the liquid crystal display device, comprising:

a primary preceding frame image data reconstructor for generating primary reconstructed preceding frame image data representing an image of a preceding frame by compressing current frame image data representing an image of a current

frame, delaying the compressed image data by one frame interval, and decompressing the delayed image data;

an amount-of-change calculation circuit for calculating an amount of change between the image of the current frame and the image of the preceding frame;

a secondary preceding frame image data reconstructor for generating secondary reconstructed preceding frame image data representing an image of the preceding frame, based on the current frame image data and said amount of change;

a reconstructed preceding frame image data generator for generating reconstructed preceding frame image data representing an image of the preceding frame, based on an absolute value of said amount of change, the primary reconstructed preceding frame image data, and the secondary reconstructed preceding frame image data; and

a compensated image data generator for generating compensated image data having compensated values representing the image of the current frame, based on the current frame image data and the reconstructed preceding frame image data.

9. The image data processing circuit of claim 8, wherein:

the primary preceding frame image data reconstructor compresses the current frame image data by encoding the current frame image data and decompresses the delayed image data by decoding the delayed image data; and

the amount-of-change calculation circuit decodes the encoded current frame image data to generate non-delayed decoded current frame image data and compares the primary reconstructed preceding frame image data with the non-delayed decoded current frame image data to calculate the amount-of-change.

10. The image data processing circuit of claim 8, wherein:

the primary preceding frame image data reconstructor compresses the current frame image data by quantizing the current frame image data and decompresses the delayed image data by restoring bits; and

the amount-of-change calculation circuit compares the delayed image data with the quantized current frame image data to calculate the amount-of-change.

11. The image data processing circuit according to claim 8, wherein the reconstructed preceding frame image data generator

selects the primary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is larger than a predetermined threshold, and

selects the secondary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is smaller than the predetermined threshold.

12. The image data processing circuit according to claim 8, wherein the reconstructed preceding frame image data generator

selects the primary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is larger than a first predetermined threshold;

selects the secondary reconstructed preceding frame image data as the reconstructed preceding frame image data when the absolute value of said amount of change is smaller than a second predetermined threshold which is smaller than the first threshold; and

combines the primary reconstructed preceding frame image data and the secondary reconstructed preceding frame

image data in proportion to distances of said amount of change from the first threshold and the second threshold, when said amount of change is between the first threshold and the second threshold.

13. The image data processing circuit according to claim 8, wherein the compensated image data generator

determines a difference between the current frame image data and the reconstructed preceding frame image data; and

determines the compensated image data from said difference.

14. The image data processing circuit according to claim 13, wherein, in generating the compensated image data, the amount of compensation applied by the compensated image data generator to the current frame image data to generate the compensated image data when the difference is larger than a predetermined value, is larger than the amount of compensation applied by the compensated image data generator to the current frame image data to generate the compensated image data when the difference is smaller than the predetermined value, or no compensation is applied to the current frame image data to generate the compensated image data when the difference is smaller than said predetermined value.

15. The image data processing circuit according to claim 8, wherein the compensated image data generator comprises a lookup table to which the current frame image data and the reconstructed preceding frame image data are input.

16. The image data processing circuit according to claim 15, wherein the lookup table is preset to output compensation values based on the response time of the liquid crystal

display device corresponding to arbitrary preceding frame image data and arbitrary current frame image data.

17. The image data processing circuit according to claim 16, wherein the compensated image data generator adds the compensation values to the current frame image data to generate the compensated image data.

18. The image data processing circuit according to claim 15, wherein the lookup table is preset to output the compensated image data.

19. The image data processing circuit according to claim 15, wherein the compensated image data generator

reduces a number of bits of at least one of the current frame image data and the reconstructed preceding frame image data by quantization before input to the lookup table;

determines interpolation coefficients when reducing the number of bits, based on a positional relation of the image data before the bit reduction to thresholds used for the bit reduction; and

carries out interpolation on the output of the lookup table by using the interpolation coefficients.

20. A liquid crystal display device including the image data processing circuit of claim 8 and a display unit for displaying an image according to the compensated image data generated by the compensated image data generator.